

ABSTRACT OF THE DISCLOSURE

A method and system for improving the contrast ratio of a projected image. An asymmetric aperture stop within a lens is used to provide a 20-30% improvement in the contrast ratio of a projected image when used with offset projection. Using slightly offset projection, the majority of the on-state projection light from the modulator array passes through a region (512) that is not centered in the projection lens pupil. The blocked region (504) of the asymmetric aperture is oriented toward the illumination path (510) and away from the specular reflection path (508). The asymmetric aperture (502) is able to block a significant portion of the diffracted light using the blocked region (504), without blocking much of the desired projection light passing through the remainder of the aperture. The result is that dark regions of the image become significantly darker, while light regions remain about the same. The same effect occurs without the offset illumination shown in Figure 3, but to a lesser extent. The preceding abstract is submitted with the understanding that it only will be used to assist in determining, from a cursory inspection, the nature and gist of the technical disclosure as described in 37 C.F.R. § 1.72(b). In no case should this abstract be used for interpreting the scope of any patent claims.